Exhibit 4

In The Matter Of:

ARIOSA DIAGNOSTICS, INC.
v.
SEQUENOM, INC.

EVANS, M.D., MARK I. - Vol. 1
April 27, 2012

CONFIDENTIAL - ATTORNEYS' EYES ONLY

PURSUANT TO PROTECTIVE ORDER

MERRILL CORPORATION
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UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

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ARIOSA DIAGNOSTICS, INC.,
(aka ARIA DIAGNOSTICS),

Plaintiff,

Case No.
3:11-cv-06391-SI

v.

SEQUENOM, INC.,

Defendant/
Counterclaim-Plaintiff.

v.

ARIOSA DIAGNOSTICS, INC.,
(aka ARIA DIAGNOSTICS),

Counterclaim-Defendant,

and

ISIS INNOVATION LIMITED,

Nominal Counterclaim-
Defendant.
_____/

CONFIDENTIAL - ATTORNEYS EYES ONLY

PURSUANT TO PROTECTIVE ORDER

VIDEOTAPED DEPOSITION OF

MARK I. EVANS, M.D.

_____

Friday, April 27, 2012

Volume I (Pages 1 - 258)

REPORTED BY: CATHERINE RYAN, RMR, CRR, CSR 8239

And what I was starting to say before we got sidetracked a minute ago was that I remember sitting at one of our three-times-a-year, twice-a-year big group meetings shortly after the paper came out and, you know, Dr. Bianchi, Dr. Elias, Dr. Holzgreve and myself basically all being what I would describe as shellshocked that there was another and quite possibly much better way of doing this than we had all spent a decade or more working on, you know, within fetal cells, which produced a lot of frustration. 12:20:35 12:20:37 12:20:40 12:20:45 12:20:48 12:20:54 12:20:59 12:21:01 12:21:03 12:21:08 12:21:11

Q And that's the discovery that fetal cells exist in the plasma, right? 12:21:13 12:21:22

A No, we knew fetal cells existed in the plasma in small numbers. The problem with fetal cells was being able to use them accurately for diagnosis. 12:21:24 12:21:28 12:21:31 12:21:33

Q How would a person of skill in the art know in 1997 how you would, for example, amplify paternally inherited nucleic acids from the serum or plasma? 12:22:06 12:22:12 12:22:20 12:22:24

MR. HOLMES: Let me just interpose an objection to the extent it calls for a legal conclusion and vague. 12:22:26 12:22:27 12:22:29

BY MR. IANCU: 12:22:39

Q Do you have the question in mind, sir? 12:22:40
A Yes. The technique of the polymerase 12:22:41
chain reaction was already well known in science at 12:22:46
that time as well as other methodologies which could 12:22:49
be used. So it was known that if one had paternally 12:22:55
derived nucleic acids of fetal origin, that one 12:23:04
could amplify them, at least in principle. 12:23:07
Q And how would a person of skill in the art 12:23:29
know in 1997 how to detect the presence of a 12:23:32
paternally inherited nucleic acid of fetal origin in 12:23:38
the sample? 12:23:42
MR. HOLMES: Same objections. 12:23:43
THE WITNESS: I'm sorry. Could you repeat 12:23:47
the question, please? 12:23:48
BY MR. IANCU: 12:23:49
Q How would a person of skill in the art in 12:23:49
1997 know how to actually detect the presence of 12:23:52
paternally inherited nucleic acid of fetal origin in 12:23:57
serum or plasma -- 12:24:03
MR. HOLMES: Same objections. 12:24:05
BY MR. IANCU: 12:24:05
Q -- of the mother? 12:24:06
A Dr. Lo's paper published in the Lancet -- 12:24:07
and I'd like to get it before I -- do we have a copy 12:24:11
of it here someplace? Okay. Dr. Lo's paper 12:24:13

described methodology for -- for isolating maternal plasma and then amplifying those sequences and then detecting the presence of those acids. 12:24:19 12:24:37 12:24:42

Q Now, isolating maternal plasma is known for a very long time, well before 1997, right? 12:24:47 12:24:51

A That one component is certainly known, yes. 12:24:54 12:24:57

Q How do you do it, by the way? 12:24:57

A Basically, you can take a tube of blood and just stick it on the table and it will clot off. And then if you spin it, you get serum. If you give anticoagulant so that the clotting factors don't clump the cells, you get plasma. And then you centrifuge it; so you separate out the cellular from noncellular portions. 12:25:00 12:25:04 12:25:06 12:25:09 12:25:12 12:25:16 12:25:19

Q So taking the plasma, the maternal plasma, if you know that you want to look in there for paternally inherited nucleic acids of fetal origin, how would one know what techniques to use? Was there anything available how to do that, the actual technology -- 12:25:25 12:25:28 12:25:30 12:25:34 12:25:38 12:25:41

MR. HOLMES: Objection. Vague. 12:25:42

BY MR. IANCU: 12:25:43

Q -- in 1997? 12:25:44

A There are techniques that were being 12:25:52

used to distinguish those cells in the maternal circulation that came from the fetus as opposed to that came from the mother. 12:28:20 12:28:25 12:28:28

BY MR. IANCU: 12:28:31

Q Once you know where you want to look for the fetal cells, now that you want to look in the plasma, for example, per Dr. Lo's 1997 paper, once you know that -- 12:28:31 12:28:35 12:28:39 12:28:44

A No, that's incorrect. 12:28:44

Q Apologies. Go ahead. 12:28:45

A Sorry. 12:28:47

MR. HOLMES: Dr. Evans, let -- 12:28:47

THE WITNESS: I apologize. 12:28:49

MR. HOLMES: -- Mr. Iancu finish his question. 12:28:49 12:28:53

THE WITNESS: Fair enough. 12:28:55

BY MR. IANCU: 12:28:55

Q I can often be incorrect; so I appreciate you correcting me. 12:28:56 12:28:57

A Well, you said "fetal cells," not fetal DNA. 12:28:59 12:29:01

Q Yes. Good. Thank you. I'm sorry. 12:29:01

Once you know where you want to look for fetal DNA in the material -- in the maternal plasma, as an example from -- per Dr. Lo's 1997 paper, the 12:29:03 12:29:05 12:29:10

techniques for how to look for that DNA, how would one of skill in the art know of those techniques at that time? 12:29:22 12:29:35 12:29:36

MR. HOLMES: Objection. Vague. 12:29:37

THE WITNESS: Techniques such as the polymerase chain reaction were known in the field at that point. 12:29:39 12:29:40 12:29:43

BY MR. IANCU: 12:29:43

Q And with that you can use to detect DNA, correct? 12:29:44 12:29:47

A Yes. 12:29:47

Q Now, in your report at paragraph 47 through 50 you describe a variety of awards and honors that you believe Dr. Lo received; is that right? 12:29:50 12:30:33 12:30:41 12:30:44

A That's correct. 12:30:45

Q Go ahead and take a quick look through that. I'll have a couple of questions on that. 12:30:46 12:30:50

A Okay. 12:30:53

Q My question, Dr. Evans, is: Specifically, do you know what all of these awards were for in paragraph 47, for example? 12:31:12 12:31:21 12:31:23

A I do not know specifically what they were for. 12:31:43 12:31:47

Q Okay. So in paragraph 50 you indicated 12:31:49

Q Let me try, then -- let me ask a different question. Who was it that made it known that cell-free DNA was present in the maternal plasma in detectable quantities? 12:48:15 12:48:19 12:48:20 12:48:24

A Dr. Lo and Wainscoat. 12:48:26

Q Anyone else? 12:48:32

A Dr. Lo and Wainscoat had the sentinel discovery, which resulted in the Lancet paper, other papers and ultimately in the patents in question and are regarded in the field as the pioneers who found this and learned how to use it when no one else in the field actively working on it thought it could possibly be done. 12:48:34 12:48:38 12:48:43 12:48:46 12:48:51 12:48:57 12:48:59

Q In the next sentence where you begin with "Indeed," do you see that next sentence? 12:49:22 12:49:25

A Okay. 12:49:27

Q It ends with, quote, "Nobody thought that fetal cell-free DNA would be present," closed quote; do you see that? 12:49:28 12:49:31 12:49:39

A Yes. 12:49:44

Q Which you mean is that nobody thought that fetal cell-free DNA would be present in the plasma? 12:49:45 12:49:46

A In the maternal plasma. 12:49:50

Q Right? Now, it was always there, right? 12:49:54

A We now understand that it was there. 12:50:01

1	A Incredibly rare, but yes.	02:16:54
2	Q Okay. Let's go to paragraph 104. Go	02:17:31
3	ahead and read that to yourself.	02:17:33
4	A Okay.	02:17:58
5	Q Others before Dr. Lo amplified and	02:18:39
6	detected nucleic acids, right?	02:18:42
7	A Yes.	02:18:47
8	Q In fact, traditional DNA diagnostics well	02:18:47
9	before 1997 traditionally involved three steps,	02:18:52
10	right: Sample preparation, amplification, and	02:18:58
11	detection, correct?	02:19:00
12	MR. HOLMES: Objection. Vague.	02:19:01
13	THE WITNESS: Commonly.	02:19:02
14	BY MR. IANCU:	02:19:03
15	Q And the others before Dr. Lo amplified and	02:19:10
16	detected nucleic acid in plasma or serum, true?	02:19:12
17	A Yes.	02:19:17
18	Q And, actually, amplifying and detecting	02:19:24
19	nucleic acids was done using fetal cells in maternal	02:19:26
20	blood for years before the '540 patent, right?	02:19:32
21	A Repeat that again, please.	02:19:34
22	Q Amplifying and detecting nucleic acids was	02:19:37
23	done using fetal cells in maternal blood for years	02:19:41
24	before the '540 patent, correct?	02:19:43
25	MR. HOLMES: I'm going to object to the	02:19:45

the foregoing is true and correct. Subscribed at _____, California, this _____ day of _____, 2012. 05:22:51

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MARK I. EVANS, M.D.

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CERTIFICATE OF REPORTER

I, **CATHERINE A. RYAN**, a Certified Shorthand Reporter, hereby certify that the witness in the foregoing deposition was by me first duly sworn to tell the truth, the whole truth and nothing but the truth in the within-entitled cause;

That said deposition was taken down in shorthand by me, a disinterested person, at the time and place therein stated, and that the testimony of the said witness was thereafter reduced to typewriting, by computer, under my direction and supervision;

That before completion of the deposition, review of the transcript [X] was [ ] was not requested. If requested, any changes made by the deponent (and provided to the reporter) during the period allowed are appended hereto.

I further certify that I am not of counsel or attorney for either or any of the parties to the said deposition, nor in any way interested in the event of this cause, and that I am not related to any of the parties thereto.

DATED: April 30, 2012

Catherine A Ryan

(CATHERINE A. RYAN, CSR NO. 8239)